



## **ANNEXURE A**

### **PRASA TICKET MATERIAL SPECIFICATION**

#### **1. ITix TICKET MATERIAL**

##### **PHYSICAL DIMENSIONS OF TICKET MATERIAL ON ROLLS FOR USE ON THE PRINTRONIX SL/ T4M PRINTERS**

The paper ticket material will be supplied in continuous rolls, without joints, splices or breaks, and wound onto a central circular core.

#### **1. Core Dimensions**

1.1 The inner core of the roll will have the following dimension:

- Inner diameter: 76 mm
- Core thickness: 5 mm
- External diameter: 86 mm
- Width: 86.5 mm

1.2 The core of the roll will preferably be made of a cardboard material suitable for the purpose and will not be deformed or collapse under normal conditions of transport or storage.

1.3 The material must not be attached with sticky tape to the inner core.

#### **2. Ticket Material Roll Dimensions**

2.1 The material will be wound evenly on the core and with sufficient tension, to prevent telescoping with normal handling.

2.2 ***The ticket material will be wound on to the inner core in the following direction:***

- With the roll resting on a horizontal surface, and viewed from the top, the material will be wound in a clockwise direction with the conditions of transport facing to the inside (reverse side) and the printing surface facing outward.

2.3 **A black line of 3 mm must be printed across the width of the ticket material every 54mm.**

2.4 ***The thickness of the ticket material will be 0,250 mm ± 0,025 mm. The thickness should be measured as per BS 3983 part 2 of 1982 (ISO 534 1980).***

2.5 ***The mass of the material will be 220-g/m<sup>2</sup> ± 10 g/m<sup>2</sup>.***

#### **2.6 Roll Dimensions**

2.6.1 The external diameter of a fully wound roll will be 203 mm ± 1 mm.

2.6.2 The width of the ticket material roll must be 86.5mm.

2.6.3 The length of the material on a roll will be 100 meters.

***Note: The width of the ticket will be 54 mm ± 0,4 mm***

***The length of ticket will be 86,5 mm ± 0,7 mm.***



## **GENERAL DESCRIPTION of ITix TICKET MATERIAL**

### **1 Construction**

- 1.1 The ticket material may be either of a single or multiple layer construction and will comply with the specifications. Where multiple layers are used, the layers will not separate under normal use.
- 1.2 The face and reverse side of the ticket will be suitable for accepting printed information.
- 1.3 Both sides of the ticket may be required to carry pre-printed information and/or background printing.
- 1.4 The material will be supplied in continuous rolls, without joints, splices or breaks and wound onto a central circular core.
- 1.5 The final acceptability of the material will be determined by the performance of the tickets in service.

### **2. Quality of Material**

- 2.1 The base material will be free of holes, electrically, magnetically and thermally conductive particles, loose dust, loose powder, fuzz, residue chemicals and slime spots likely to damage or impede the operation of the printing machines or readers.
- 2.2 The base material will be free of joints, cracks, high spots, burrs, splinters, sharp edges and dents.
- 2.3 The base material will be free of any translucent areas or spots that could affect the operation of optical sensors.
- 2.4 The base material will be free of any wrinkles or creases.
- 2.5 The ticket materials will not cause injury either by contact, inhalation or ingestion.
- 2.6 The base material will be free of any other defect not listed above, which might detract from the magnetic printing, general performance or appearance of the final product.
- 2.7 The characteristics of the material should be such that dirt accumulation and wear of the machines should be restricted to a minimum: hence the material must be capable of being cleanly cut without forming dust or burring.
- 2.8 The material should be treated to prevent the generation of static electrically sufficient to impair its serviceability.
- 2.9 The ticket material will be unaffected by magnetic fields and will retain no detectable residual magnetism.
- 2.10 The quality of the material will be such to ensure uninterrupted operation of the ticket issuing device, and allow good quality print, using both thermal and impact type printers, but predominantly for thermal printing.
- 2.11 The printing on the ticket material ***must last for at least 5 weeks and should not fade.***

### **3 Quality Control**

Quality of ticket material is very important. The successful tenderer will be responsible for the quality of ticket material always.

### **4 Printing Surface**

- 4.1 The entire face of the ticket is defined as the "printing surface" and will conform to the following requirements:

#### **4.2 Resolution**

The quality of the printing surface will provide adequate resolution of printed characters and graphics when using a thermal printing head with a line density of six dots per millimetre.

#### **4.3 Absorbability**

The printing surface will be sufficiently absorbent to ensure proper keying of the thermal transfer ink while remaining dimensionally stable within the specified humidity range. The printed characters will not smear when wiped over by a felt pad one second after being printed by the machine, under service conditions.



#### **4.4 Durability**

It must not be possible to erase printed characters without damaging the surface of the ticket.

#### **4.5 Security Background**

A security background needs to be printed on the printing surface of ticket material. The purpose of the security background is to impede forging of tickets and to assist with the identification of forged material and tickets.

#### **4.6 Quality of Security Background**

Security background printing will not affect printing qualities of the ticket material. It will not affect the smoothness of the print face, nor affect the ability of material to accept printing. Simultaneously, security background printing may not affect the ticket issuing machine in any way.

#### **4.7 Number of Security Background Colours**

It is a requirement that security background colours be changed on a regular basis.

#### **4.8 Colours Used for Security Background**

Service Providers are required to suggest colours to be utilised in printing the security background. It must be difficult to make acceptable photocopies or electronic scanning of security background printing. Amongst others, Service providers should investigate using neon or metallic inks. Only one colour will be used at a time.

#### **4.9 Description of Security Background Printing for PRASA**

Viewing a ticket from the printing face side of a ticket in the portrait orientation, background security printing will be printed at an **Angle of 45°**, from the lower left-hand to upper right-hand side Security background printing will consist of the word "PRASA" printed in the official PRASA font. The word will be repeated and spaced such that orientation of words between lines does not coincide. Full details will be furnished to the successful tenderer.

#### **4.10 Printing the PRASA Conditions of Sale on Reverse Side of Ticket**

A statement referring to the general conditions of sale will be printed on the reverse side of a ticket.

##### **4.10.1 Orientation of Printing**

To describing printing on the reverse side of ticket material, a ticket will be viewed in the landscape orientation.

##### **4.10.2 Printing of Messages**

Provision must be made to print short messages on the reverse side of tickets.

##### **4.10.3 Conditions of Sale**

The conditions of sale must be printed on the reverse side of the ticket and will be provided to the service provider. The notice will be printed such that:

- ◆ A minimum clearance of 2 mm is maintained between the notice and the edge of the ticket.
- ◆ Regardless of the registration of the edge of the ticket with regards to the beginning of a notice, at least one complete notice will be displayed on any ticket.

##### **4.10.4 Changes to Text**

It is probable that PRASA will require changes to the "conditions of sale" text from time to time.



#### 4.11 Advertising Space

The reverse side of a ticket will be used for advertising. An advert of 35mm X 25mm will be printed on the reverse side of the ticket which will be discussed with the successful tenderer who must be able to print colour adverts.

#### 5. Regional Name and Numbering of PRASA Ticket Material

Viewing a ticket from the printing face side of a ticket in the portrait orientation with the outer end pointing upwards, the regional name and roll numbering shall be printed at an **Angle of 90 °**, on the right-hand side of the ticket. The printing of the regional name and roll numbers shall consist of alpha and numeric digits at a font size of 7 or 8 (letter size). Regardless of the registration of cutting position with regards to the beginning of a regional name and roll number (each roll must have unique number), at least one complete regional name and roll number shall be displayed on any ticket.

#### 6. Additional Security Features on Ticket Material

- Fixed offset metallic inks.
- Coin reactive inks.
- Fixed Offset Fluorescent inks; and
- Copy protection via Oyster Covert ink.

#### 7. PACKING AND LABELLING OF MATERIAL

- The supplier shall be entirely responsible for to PRASA RAIL for all the material until it is accepted by Prasa Rail and an acceptance certificate will be issued.
- Itix rolls shall be packed upright with rolls laid flat and each roll individually shrink wrapped in moisture proof wrapping in quantities of 3 rolls in suitable corrugated cardboard containers.
- All Itix rolls shall be packed as to prevent damage in transit or storage.
- Each cardboard carton will be permanently marked on at least two

***opposite sides with the following information:***

- Contents
- Material type and colour
- Batch number
- Order number
- All material packed into a cardboard carton will be identical.





**metrorail**

FROM: 120014 4513 2025/08/29 13:15

**CAPE TOWN**

TO:

**EERSTERIVIER**

**METRO**

**SEP 2025**

**ADULT**

**MONTHLY**

**MONTHLY**



FARE: RK1 75%

**R55.00**

**CASH**

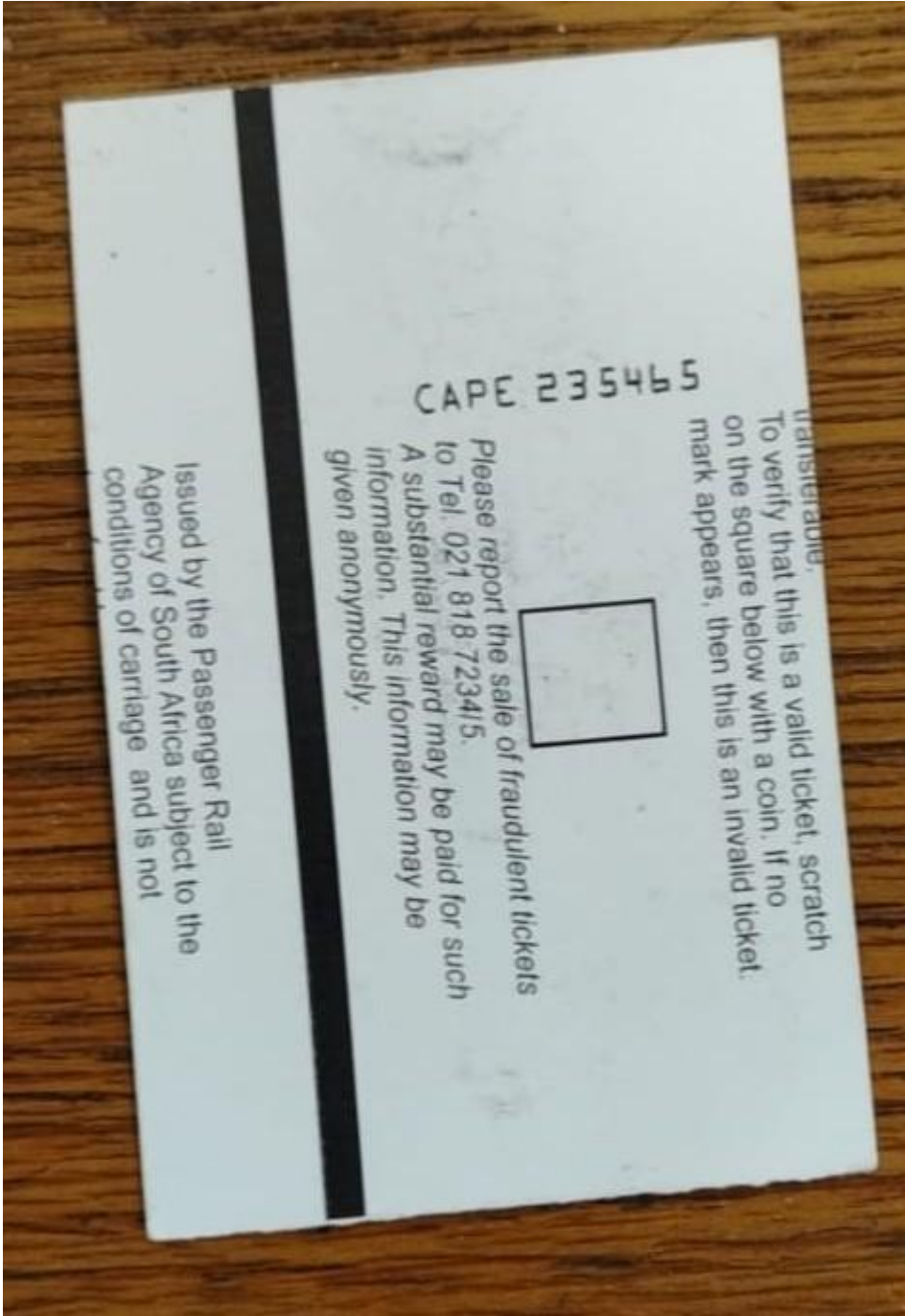
Valid From: 2025/09/01 00:00

EXP: **2025 SEP 30**

Ticket not transferable

Ticket #: 65295 Operator: 20007267

**Valid Mondays to Saturdays Only**







**SPECIFICATION FOR THERMAL POLYPROPYLENE TICKET MATERIAL  
FOR USE IN THE PORTABLE TICKET ISSUING MACHINES  
(PITIX )**

- 3.1 The material shall be supplied in continuous rolls, without joints, splices or breaks, and wound onto a central circular core.
- 3.2 The inner core of the roll shall have the following dimensions:
- Inner diameter: 13 mm  $\pm$  0,5 mm.
  - External diameter: 16 mm  $\pm$  0,5 mm.
  - Width: 56 mm + 0,1 mm; - 0,
- 3.3 The core of the roll shall preferably be made of a synthetic material suitable for the purpose and shall not be deformed or collapse under normal conditions of transport or storage.
- 3.4 The material shall be wound evenly on the core and with sufficient tension, to prevent telescoping with normal handling.
- 3.5 The ticket material shall be wound to the inner core in the following direction: With the roll resting on a horizontal surface, and viewed from the top, the tape shall be wound in a clockwise direction with the printing face facing outward or thermal coating on outside of roll. The security printing shall be orientated such that is read from the outer end of the material, when the outer end of the roll is held upwards.
- 3.6 The external diameter of a fully wound PTIM roll shall be 49.5 mm  $\pm$  0,5 mm.
- 3.7 The width of the ticket shall be 56 mm  $\pm$  0,4 mm. The width to be measured by an optical method.
- 3.8 Unless otherwise specified, the colour of the material is to be white.

**4. THERMAL POLYPROPYLENE MATERIAL FOR PITIX ROLLS**

***The ticket material supplied by the tenderer for use in the portable ticket issuing machines on all the PRASA regions must comply (firm requirement) to the following specifications:***

- Material: Polypropylene film.
- Thickness: 100mic Standard as per Tappi T- 4111;
- Thermal coating: Shall meet or exceed the ANSI 3.11 specification.
- Smoothness: Max. 75 Sheffield units;
- Top coating: The thermo-sensitive surface of the ticket stock must be top coated;
- Preprint: Tickets can be pre-printed on one, or both side;
- Ink for thermo-sensitive side: Laser printer approved ink without whiteners; Offset ink.
- Ink for rear side:

Specification for thermal polyprop ticket material for the use in the portable ticket printers

- 4.1 The material will be used in the portable Bluetooth ticket printers for Pitix, currently in service with PRASA.
- 4.2 The material shall be supplied in continuous rolls, without joints, splices or breaks, and wound onto a central circular core.



**4.3 The inner core of the role shall have the following dimensions:**

Inner diameter 13mm +/- 0,5mm

External diameter 16 mm +/- 0,5mm

Width 57mm +/- 0,1mm

4.4 The core of the roll shall preferably be made of a synthetic material suitable for the purpose and shall not be deformed or collapse under normal conditions of transport or storage.

4.5 The material shall be wound evenly on the core and with sufficient tension, to prevent telescoping with normal handling.

**4.6 The ticket material shall be wound to the inner core in the following direction:**

- With the roll resting on a horizontal surface, and viewed from the top, the tape should be wound in a clockwise direction with the printing face facing outward. The security printing shall be oriented such that is read from the outer end of the material, when the outer end of the roll is held upwards

4.7 The external diameter of a fully wound roll shall be 30mm +/-0,1mm. Vendor to state the length of material contained on a roll.

4.8 Width: The width of the ticket roll shall be 57mm +/-0,1mm. The width to be measured by an optical method.

4.9 Colour: Unless otherwise specified, the colour of the material is to be white

**PACKING, LABELLING AND SHIPPING OF TICKET MATERIAL**

**1.1 Material in Rolls**

1.1.1 The PRASA Ticket rolls will be packed upright, with rolls laid flat and each roll individually shrink wrapped in moisture proof wrapping in quantities of five, in suitable corrugated cardboard containers.

1.1.2 The smaller rolls for the Pitix will be packed in corrugated cardboard containers in quantities prescribed in the annexure hereto. The individual rolls will be shrink- wrapped in moisture proof wrapping.

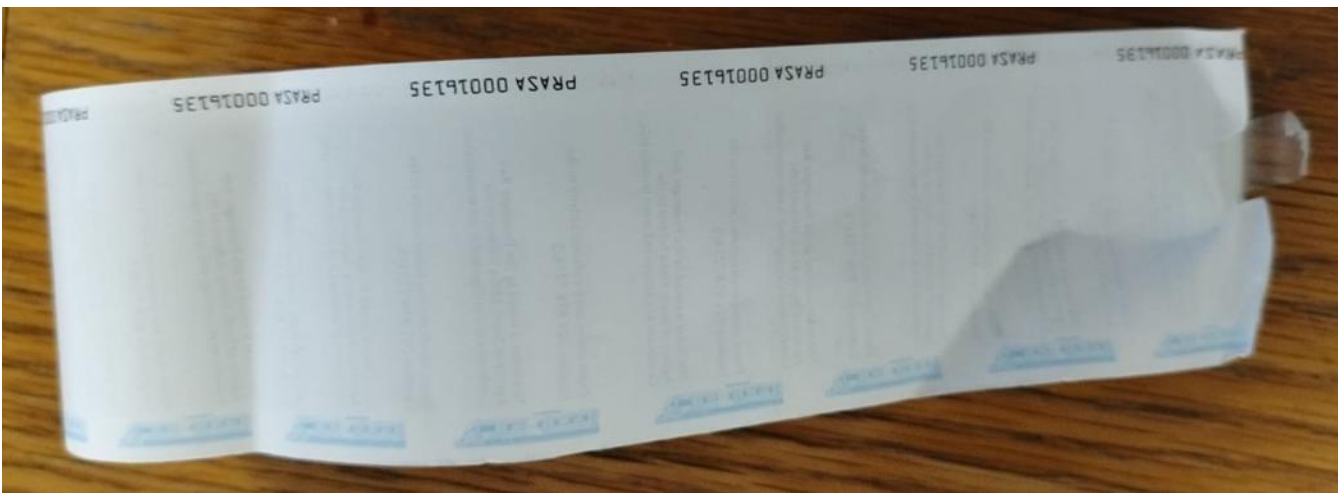
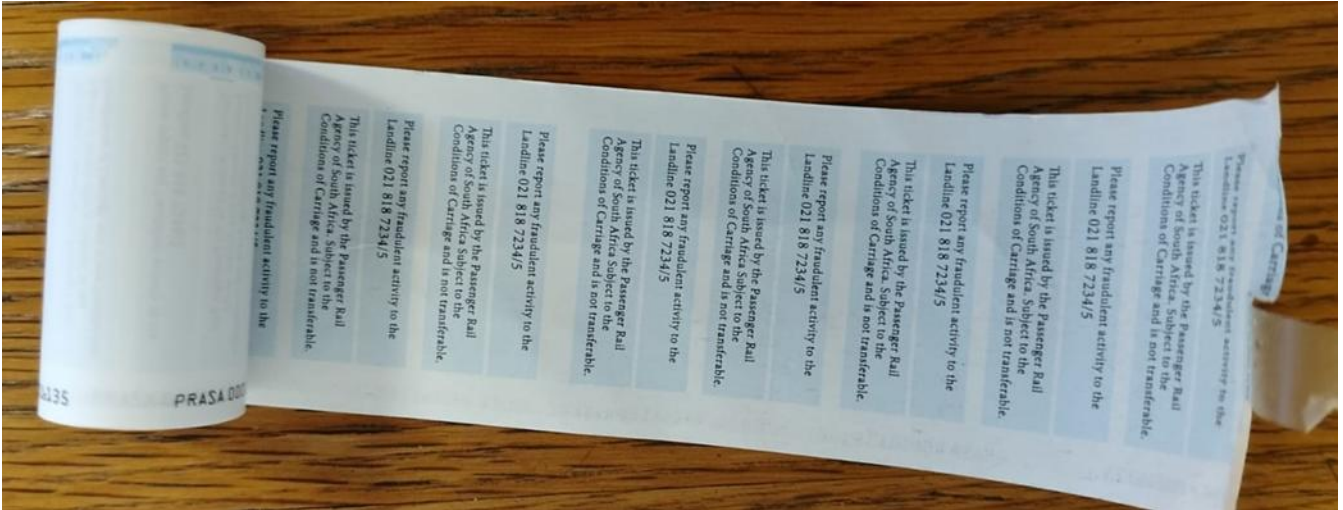
1.1.3 All ticket material will be packed to prevent damage in transit or storage.

1.2 Each cardboard carton will be permanently marked on at least two

***opposite sides with the following information:***

- (i) Contents
- (ii) Material type and colour
- (iii) Batch number
- (iv) Order number
- (v) "For ITix" or "For PTIM's"

**1.3 All material packed into a cardboard carton will be identical.**







## 1. THERMAL RIBBONS

### SINGLE TRANSFER THERMAL RIBBON PROPERTIES

Application type:	Single Transfer Thermal Ribbon
General:	Smear less and acceptable for printing as per specification No. SCPA-1
Receptor:	As per specification No. SCPA-1

#### 1.1 *Physical properties of ink:*

Viscosity	50 to 3000 cps at 100 C
Melting point	65 to 85 C
Hardness (Penetration)	5 to 40
Printing speed	60 mm / s

#### 1.2 *Thermal Transfer Ribbon characteristics:*

Colour	Black
Sensitivity	18 mm/mm <sup>2</sup>

#### 1.3 *Base Film:*

		Test Method
Base film thickness	5,7 um	JIS C2318

#### 1.4 *Tensile strength:*

		Test Method
Length	17 to 23 kb/mm	JIS C2318
Width	18 to 24 kb/mm	JIS C2314

#### 1.5 *Elongation:*

		Test Method
Length	90 to 130 %	JIS C2318
Width	90 to 130 %	JIS C2318
Density	1,4 g/cubic cm	JIS C2318



### 1.6 *Printing characteristics:*

		Unit
Image density	Better than 1,4	Macbeth

### 1.7 *Reliability of Printed Images:*

Resistance to heat and rub force	Scannable after rubbed by corrugated cardboard. 100 back and forth rubs
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Loading for test	100 g/cm
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### 1.8 *Resistance to:*

Heat and rubbing force	As for test of reliability of printed images
Solvents when rubbed with cotton wool and solvents at room temperature	Must not dissolve when rubbed with alcohol or oil.

## 2. GENERAL REQUIREMENTS

2.1 **Ribbons** shall be equipped with leaders, as described below. Ribbon leaders are required to enable full usage of inked material.

2.2 **Composition** of leaders and trailers Sky-blue leaders of 300mm in length must be secured to the ribbon. No trailer must be used, and the ribbon must be fixed directly onto the core

2.3 **Securing** of ribbon to leaders

Adhesives used to join the leaders and cores to the ribbons may not seep from joints. It may not cause layers to stick together or affect the operation in any way. Joints must be strong enough to withstand the forces applied in the operation. The ribbon must display a clean cut on the edges. No jaggedness is allowed.

2.4 **Force** applied when rolling ribbon up.

The material shall be wound evenly on the core and with sufficient tension, to prevent telescoping with normal handling.



**PHYSICAL DIMENSIONS OF RIBBONS TO BE USED ON THE PRINTRONIX PRINTERS**

**2.5 Description of Ribbon Roll:**

Roll diameter (max)	81 mm
Roll length (material)	550 m
Roll width	88 mm
Method of winding ribbon	Inked/Coated surface to outside of roll

**2.6 Description of Ribbon Core:**

Core Length	88 mm
Inner diameter	25.4 mm
Outer diameter	31.4 mm

**2.7 Description of Ribbon Take-Up Core:**

Core Length	88 mm
Inner diameter	25.4 mm
Outer diameter	31.4 mm



